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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,758	04/19/2001	James D. Greenfield	END920000125US1(00240084A	1311

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EXAMINER	
DASTOURI, MEHRDAD	
ART UNIT	**PAPER NUMBER**
2623	

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/838,758	GREENFIELD ET AL.	
	Examiner	Art Unit	
	Mehrdad Dastouri	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 August 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicants' amendment filed August 5, 2004, has been entered and made of record.

Oath/Declaration

2. Objection to the Declaration originally filed with the application has been withdrawn in view of the newly submitted declaration. Both the newly executed Declaration and Authorization have been entered and made of record.

Response to Arguments

3. Applicant's arguments filed August 5, 2004, have been fully considered but they are not persuasive.

Concerning Applicants arguments regarding Figures 1 and 2, it is submitted that based on Applicants' explicit disclosure under "Description of Prior Art (As disclosed in Page 2, Lines 23-31 of the instant application specification), Figures 1 and 2 should be labeled "prior art" in lieu of "related art". Furthermore, considering the obligation under 37 CFR § 1.56(a), Applicants are respectfully requested to clarify which component in Figures 1 and 2 are Applicants' invention.

Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated (I.e., Mechanics in the coding engine of JPEG 2000). See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as

per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. Applicants' further arguments have been fully considered but they are not persuasive. Concerning Claims 1 and 7, Applicants argue that Cheng et al. (Prior art of record) conceptually teaches away from using a single filter and hybrid coefficients to concurrently perform two operations involving both luminance and chrominance, as claimed.

The Examiner disagrees and indicates that "a filter" recited in Claim 1 and 7 are not **single filters**. These filters are comprised of a bank of filters that filters chrominance and luminance data separately (Two separate inputs to Component 110 depicted in Figure 3, or Component 20 depicted in prior art Figure 1). Claim language does not recite simultaneous filtering of luminance and chrominance data. Claim language simply recites obtaining filtered data concurrently. The filtered data can be obtained from separate filter components concurrently as disclosed in Figure 10, Step 128 (HSI Filtering) of prior art of record. Furthermore, filter coefficients are clearly disclosed by Cheng et al. (Column 10, Lines 15-67). Consequently, Applicants' arguments concerning "impermissible hindsight" which is also directed in part to the amended claim language "vertical spatial filtering" is not relevant. As a result, Cheng et al. clearly anticipate and support a conclusion of obviousness in regards to all claims in

the application. The broad claimed invention is simply directed to **image pre-processing**, and all prior arts of record are relevant to the subject matter of the claims.

The Examiner respectfully expresses his disagreement and discontent regarding the Applicants' statement in the last full paragraph in Page 12 of the amendment/remarks, and indicates that based on the above-mentioned response, the Examiner is not in error in regards to the actual content and/or suggestions of Cheng et al. Applicants' amendment, as well, is a clear evidence for the appropriateness of the teachings of the prior arts of record.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng et al (U.S. 6,631,206) in view of Jin Li (Image Compression- the Mechanics of the JPEG 2000).

Regarding Claim 1, Cheng et al disclose a method of pre-processing image data, said method including steps of:

applying luminance and chrominance data of consecutively presented lines of data to respective data inputs of a filter (Column 2, Lines 41-56; Figures 3-6; Figure 10, Step 128; Column 9, Lines 1-13), and

applying hybrid filter coefficients to said filter to concurrently obtain spatially filtered and chrominance converted data (Column 2, Lines 41-56; Figures 3-6; Figure 10, Step 128; Column 9, Lines 1-13; Column 10, Lines 15 through Column 12, Line 2).

Cheng et al. disclose obtaining spatially filtered data but do not explicitly disclose obtaining vertically spatially filtered data.

Jin Li discloses the operation flow of the JPEG 2000 standard comprising obtaining vertically spatially filtered data and chrominance converted data (Figure 2; Page 3, first Paragraph).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Cheng et al invention according to the teachings of Jin Li to obtain vertically spatially filtered data format because it is a well known procedure routinely implemented in the image pre-processing (prior to data compression) to create a compact data representation for storage and transmission purposes (Jin Li, Introduction).

With regards to Claim 7, arguments analogous to those presented for Claim 1 are applicable to Claim 7.

7. Claims 2-4, 6 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng et al (U.S. 6,631,206) in view of Jin Li (Image Compression-the Mechanics of the JPEG 2000) and Mancuso et al (6,285,801).

Regarding Claim 2, Cheng et al or Jin Li do not explicitly disclose a method as recited in Claim 1, wherein said consecutively presented lines are lines of a progressive scan format. However, it is well known that conventional scanning will generate

consecutive lines of progressive scan format as disclosed by Mancuso et al (Figure 6; Column 5, Lines 58-67, Column 6, Lines 1-45).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Cheng et al and Jin Li combination according to the teachings of Mancuso et al to apply consecutive lines of data to the filter as lines of a progressive format because it is a well known procedure routinely implemented in the art to reduce processing time.

Regarding Claim 3, Mancuso et al further disclose the preprocessing method wherein said consecutively presented lines are lines of an odd field or an even field of an interlaced scan format (Figure 6, components 604 and 608; Column 5, Lines 58-67, Column 6, Lines 1-45).

Regarding Claim 4, Mancuso et al further disclose the preprocessing method further including a step of altering said hybrid filter coefficients for respective ones of said odd field and said even field (Figure 7; Column 8, Lines 34-53).

Regarding Claim 6, Mancuso et al further disclose the preprocessing method further including the further steps of multiplying said luminance and chrominance data by said hybrid filter coefficients for respective ones of said consecutively presented lines to produce weighted luminance and chrominance values (Figure 7; Column 8, Lines 54-67, Column 9, Lines 1-6), and

summing said weighted luminance and chrominance values (Figure 7; Column 8, Lines 54-67, Column 9, Lines 1-6).

With regards to Claims 8 and 9, arguments analogous to those presented for Claim 2 are applicable to Claims 8 and 9.

With regards to Claim 10, arguments analogous to those presented for Claim 3 are applicable to Claim 10.

With regards to Claim 11, arguments analogous to those presented for Claim 4 are applicable to Claim 11.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng et al (U.S. 6,631,206) in view of Jin Li (Image Compression- the Mechanics of the JPEG 2000).

Regarding Claim 5, Cheng et al or Jin Li do not explicitly disclose a method as recited in Claim 1, further including a step of removing alternate lines of said chrominance converted data.

However, removing alternate lines of chrominance converted data is a standard procedure in image processing (Official Notice).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Cheng et al and Jin Li combination to remove alternate lines of chrominance converted data because it is a well known methodology routinely implemented in image processing for reducing the amount of data to be processed.

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng et al (U.S. 6,631,206) in view of Jin Li (Image Compression- the Mechanics of the JPEG 2000) and Ozaki et al (U.S. 4,903,122).

Regarding Claim 12, Cheng et al or Jin Li do not explicitly disclose a method as recited in Claim 7, further including means for sub-sampling said chrominance converted data.

Ozaki et al disclose a color imaging system including means for sub-sampling said chrominance converted data (Figure 8a; Column 6, Lines 65-68, Column 7, Lines 1-21).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Cheng et al and Jin Li combination according to the teachings of Ozaki et al to include means for sub-sampling said chrominance converted data because it is a well known procedure routinely implemented in the art to reduce the amount of data to be processed.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mehrdad Dastouri whose telephone number is (703) 305-2438. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mehrdad Dastouri
Primary Examiner
Art Unit 2623
January 9, 2005

MEHRDAD DASTOURI
PRIMARY EXAMINER

Mehrdad Dastouri